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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,701	11/09/2001	Hans-Ueli Roeck	34152	7952
116	7590	07/27/2007	EXAMINER	
PEARNE & GORDON LLP 1801 EAST 9TH STREET SUITE 1200 CLEVELAND, OH 44114-3108			LEE, PING	
		ART UNIT	PAPER NUMBER	
		2615		
		MAIL DATE	DELIVERY MODE	
		07/27/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/044,701	ROECK ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Ping Lee	2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 08 May 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-24 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-12, 1/19, 2/19, 3/19, 4/19, 5/19, 6/19, 7/19, 8/19, 9/19, 10/19, 11/19, 12/19, 20-22 and 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Killion et al (hereafter Killion) (US006101258A).

Regarding claim 24, Killion discloses method for operating a hearing device in which one of several possible hearing programs is selected at a given time in response to a bi-level switching state value (using Figs. 9-11 as an example, the claimed “bi-level switching state value” reads on one state value representing by increasing ambient noise, and another state value representing decreasing ambient noise; col. 8, lines 40-49; or one state value for shifting to omnidirectional response, the other state value for shifting to directional response) comprising the steps of:

providing a microphone (15 for example);

providing transfer functions (each transfer function is the ratio between the output of the hearing aid and the input at the microphone 15; since the gain is changed based on the control from VC2, there are a plurality of transfer functions) between the microphone (15) and a hearer, the transfer functions having parameters (defined by the gain on the path) and corresponding with the programs;

initiating a change in at least one of the parameters in response to said bi-level switching state value (depending on the state either as increasing noise or decreasing noise; or the state for either shifting to omnidirectional response or for shifting to directional response) from a momentary value (for example, from a complete omnidirectional response) to a desired value (to reach the complete directional response) in a time-based manner (as shown in Fig. 11, the change from omnidirectional response to directional response is being performed gradually, therefore, the change is inherently performed in a time-based manner; col. 9, lines 14-25).

Regarding claim 20, Killion discloses a hearing device, whereas at least one smooth transition filter unit (205) is provided which filter unit generates time-based transitions of parameters which are affected by hearing program switching in response to a bi-level switching state value (using Figs. 9-11 as an example, the claimed “bi-level switching state value” reads on one state value represented increasing ambient noise, and another state value representing decreasing ambient noise; col. 8, lines 40-49), in that values of the parameters (determined by the gain of the transistors) to be changed by a hearing program switching are passed through the filter unit in order to obtain a smooth transition (col. 9, lines 15-25) from a momentary to a desired parameter value (as shown in Fig. 11).

Regarding claim 21 and 22, the claimed low-pass characteristics and the ramp generator reads on the function provided by the logarithmic rectifier.

Regarding claims 1, 2 and 7-12, Killion discloses a method for operating a hearing device in which one of several possible hearing programs (the complete

omnidirectional response, the complete directional response, and in-between these two) is selected at a given time in order to adjust to a momentary acoustic surround situation (ambient noise), in that parameters of a transfer function (defined by the gain in the path from the microphone to the output) provided between a microphone and a hearer are changed, whereas the parameters to be changed according to the hearing program switching are adjusted from a momentary value (for example, from a complete omnidirectional response) to a desired value (to a complete directional response) in a smooth manner (gradual changes as shown in Figs. 10 and 11) in response to a bi-level switching state value (the claimed “bi-level switching state value” reads on one state value representing by increasing ambient noise, and another state value representing decreasing ambient noise; col. 8, lines 40-49; or one state value for shifting to omnidirectional response, the other state value for shifting to directional response) in order to provide a smooth transition from one hearing program to another by initiating a time-based transition (as shown in Fig. 11, the change from omni-directional response to directional response is being performed gradually, therefore, the change is inherently performed in a time-based manner; col. 9, lines 14-25).

Regarding claims 3 and 4, the claimed “a step response of a low-pass filter” reads on the response of the logarithmic rectifier.

Regarding claims 5 and 6, the claimed “ramp generator” reads on the logarithmic rectifier.

Regarding claims 1/19, 2/19, 3/19, 4/19, 5/19, 6/19, 7/19, 8/19, 9/19, 10/19, 11/19 and 12/19, for example Killion discloses the scaling.

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 13-18, 13/19, 14/19, 15/19, 16/19, 17/19 and 18/19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Killion in view of Ruegg (US 3,875,349).

Regarding claims 13-18, 13/19, 14/19, 15/19, 16/19, 17/19, and 18/19, Killion fails to teach manual intervention in the embodiment as illustrated in Fig. 9. Killion suggests the manual intervention in another embodiment as shown in Fig. 1. Ruegg teaches that a hearing aid not only need automatic control of the hearing program, it also needs manual control that would enable the user to have control over his/her hearing aid when he/she has a desire to change the program immediately (col. 3, lines 36-41). Thus, it would have been obvious to one of ordinary skill in the art to Killion's system in view of Ruegg by having a manual intervention over an oversteer unit in order to enable the hearing aid's wearer to have a manual control over the hearing program when he/she wants have a forced change.

***Response to Arguments***

5. Applicant's arguments filed 5/8/07 have been fully considered but they are not persuasive.

In view applicant's argument, the previous 102 and 103 rejections have been revised. Since Killion, or Killion in view of Ruegg can reject all the pending claims, the rejection based on Jensen has been removed in order to simplify the current office

action. This is not an indication that Jensen cannot be used for prior art rejection in any future office action if necessary.

As argued on the remark received on 11/6/07, applicant pointed out that the output of logarithmic rectifier is a continuous function, not a bi-level switching state value. Using a different interpretation, examiner believes that Killion's system reads on the claimed invention. By definition, "switching" means shifting from one to another. Killion discloses that the omnidirectional response is shifted to become directional response, or vice versa. By definition, "bi-level switching" means shifting between two states. Killion discloses the hearing aid is shifting between omnidirectional response and the directional response. The output from the logarithmic rectifier can be interpreted as bi-level switching state value when VC1 (for example) has a value representing the increment noise or has a value representing the decrement noise.

Applicant argued that Killion does not show time-based transitions. This is simply not true. The embodiment as illustrated in Figs. 9-11 is a hearing device with smooth transition from a directional response to omni-directional response. If the transition were not performed in time-based smooth fashion, such as an instantaneous change, the change would be unnatural and abrupt. However, as disclosed in col. 9, the embodiment has a gradual transition to provide natural change.

Applicant argued that logarithmic amplifier does not have low-pass characteristics or a ramp generator. Although Killion does not use the exact term, one skilled in the art would have recognized that the logarithmic amplifier has low-pass characteristics. On col. 8, lines 27, Killion discloses that the amplifier is a rectifier. A

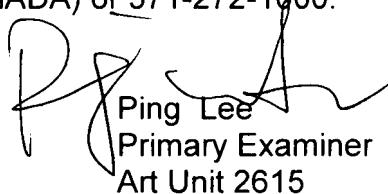
rectifier, as well-known in the art, has a low-pass characteristics in order to eliminate AC and provide a smoother output. The claimed ramp generator reads on Killion because Fig. 10 illustrates the ramp responses.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522.

The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ping Lee  
Primary Examiner  
Art Unit 2615

pwl